What is claimed is:

1.   A method for achieving high availability in a networked computer system, the networked computer system including a plurality of nodes connected by a network, the method comprising:

using a plurality of components to represent hardware and software in the networked computer system, wherein the plurality of components are high-availability aware; and

maintaining a desired level or levels of redundancy of the plurality of components.

2.   The method of claim 1, wherein the maintaining step further comprises:

recovering from a failure of a component of the plurality of components.

3.   The method of claim 1, wherein the maintaining step further comprises:

recovering from a failure of a node of the plurality of nodes.

4.   The method of claim 1, wherein the maintaining step further comprises:

migrating a component of the plurality of components from one node to another node in the plurality of nodes when appropriate.

5.   The method of claim 1, wherein the maintaining step further comprises:

detecting a component failure among the plurality of components;

reporting the component failure when appropriate; and

conducting a component failure recovery procedure.

6.   The method of claim 1, wherein the maintaining step further comprises:

detecting a node failure among the plurality of nodes;

reporting the node failure when appropriate; and

conducting a node failure recovery procedure.

7. The method of claim 1, wherein the maintaining step further comprises:

assigning states to the plurality of components;

providing checkpoint services;

monitoring health of the plurality of components;

detecting a component failure; and

recovering from the component failure using checkpoint information.

8.   The method of claim 7, wherein the states of the plurality of components include off-line, spare, secondary, and primary.

9.   The method of claim 7, wherein the recovering step further comprises:

isolating a cause of the component failure; and

applying a failure recovery procedure to address the cause.

10.   The method of claim 1, wherein the plurality of nodes may belong to different software release domains, and wherein the maintaining step is capable of taking into account the different software release domains.

11.   The method of claim 10, wherein information regarding the different software release domains is used to conduct a software upgrade.

12.   The method of claim 1, wherein the maintaining step takes into account load information.

13.   The method of claim 1, wherein application programming interfaces are used in the using and maintaining steps.

14.   The method of claim 1, wherein the method does not change depending on hardware or software architecture of the networked computer system.

15.   The method of claim 1, wherein the desired level or levels of redundancy include 2N, N+1, load-sharing, hot-standby, and warm-standby.

16.　A method for achieving high availability in a networked computer system, the networked computer system including a plurality of nodes connected by a network, the method comprising:

using a plurality of components to represent hardware and software in the networked computer system, wherein the plurality of components are high-availability aware;

managing the plurality of components to achieve a desired level or levels of redundancy;

monitoring health of the networked computer system, including health of the plurality of components and health of the plurality of nodes;

detecting a failure in the networked computer system, including a failure of a component in the plurality of components and a failure of a node in the plurality of nodes; and

recovering from the failure by performing an appropriate failure recovery procedure.

17.　The method of claim 16, further comprising:

reporting the health of the networked computer system.

18.　The method of claim 16, further comprising:

reporting the failure of the networked computer system.

19.   The method of claim 16, wherein the monitoring step cooperates with the component management step.

20.   The method of claim 16, wherein the detecting step further comprises:

isolating a cause of the failure,

wherein the appropriate failure recovery procedure addresses the cause identified by the isolating step.

21.   The method of claim 16, further comprising:

migrating a component of the plurality of components from one node to another node in the plurality of nodes.

22.   The method of claim 16, further comprising:

cooperating with external management services and an operating system of the networked computer system.

23.   A system for making a networked computer system highly available using a plurality of components, wherein the networked computer system includes a plurality of nodes connected by a network, the system comprising:

means for providing component services;

means for providing availability management services;

means for providing distributed system services;

means for providing platform specific services; and

means for providing external management services,

wherein the plurality of components are high-availability aware and

represent software and hardware in the networked computer system.

24. The system of claim 23, further comprising:

means for cooperating with underlying operating system of the

networked computer system.

25. A system for making a networked computer system highly available,

wherein the networked computer system includes a plurality of nodes connected by

a network, the system comprising:

means for using a plurality of components to represent hardware and

software in the networked computer system, wherein the plurality of components

are high-availability aware; and

means for maintaining a desired level or levels of redundancy of the

plurality of components.

26. A system for making a networked computer system highly available,

wherein the networked computer system includes a plurality of nodes connected by

a network, the system comprising:

means for using a plurality of components to represent hardware and

software in the networked computer system, wherein the plurality of components

are high-availability aware;

means for managing the plurality of components to achieve a desired

level or levels of redundancy;

means for monitoring health of the networked computer system,

including health of the plurality of components and health of the plurality of nodes;

means for detecting a failure in the networked computer system,

including a failure of a component in the plurality of components and a failure of a

node in the plurality of nodes; and

means for recovering from the failure by performing an appropriate

fault recovery procedure.

27.   A computer program product configured to achieve high availability in

a networked computer system, the networked computer system including a

plurality of nodes connected by a network, the computer program product

comprising:

computer readable program code configured to create a plurality of

components to represent hardware and software in the networked computer system,

wherein the plurality of components are high-availability aware;

computer readable program code configured to maintain a desired level

or levels of redundancy of the plurality of components; and

a computer readable medium having the computer readable program

codes embodied therein.

28.   A computer-readable storage medium comprising program instructions for achieving high availability in a networked computer system, the networked computer system including a plurality of nodes and a storage device, wherein the program instructions execute in the networked computer system and the program instructions are operable to implement the steps of:

using a plurality of high-availability-aware components to represent software and hardware in the networked computer system; and

maintaining a desired level or levels of availability for the plurality of high-availability-aware components.

29.   A computer program product configured to achieve high availability in a networked computer system, the networked computer system including a plurality of nodes connected by a network, the computer program product comprising:

computer readable program code configured to use a plurality of components to represent hardware and software in the networked computer system, wherein the plurality of components are high-availability aware;

computer readable program code configured to manage the plurality of components to achieve a desired level or levels of redundancy;

computer readable program code configured to monitor health of the networked computer system, including health of the plurality of components and health of the plurality of nodes;

computer readable program code configured to detect a failure in the

networked computer system, including a failure of a component in the plurality of

components and a failure of a node in the plurality of nodes;

computer readable program code configured to recover from the failure

by performing an appropriate failure recovery procedure; and

a computer readable medium having the computer readable program

codes embodied therein.